



DEPARTMENT OF ENERGY

10 CFR Part 431

[EERE-2017-BT-STD-0009]

RIN 1904-AD79

Energy Conservation Program: Energy Conservation Standards for Walk-in Coolers and Freezers

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notification of availability of preliminary technical support document and request for comment.

SUMMARY: The U.S. Department of Energy (“DOE” or “the Department”) announces the availability of the preliminary analysis it has conducted for purposes of evaluating the need for amending the current energy conservation standards for walk-in coolers and freezers (“walk-ins” or “WICFs”). The analysis is set forth in the Department’s accompanying preliminary technical support document (“TSD”) for this rulemaking.

DOE will hold a public meeting via webinar to discuss and receive comment on the preliminary analysis. The meeting will cover the analytical framework, models, and tools that DOE is using to evaluate potential standards; the results of preliminary analyses performed by DOE; the potential energy conservation standard levels derived from these analyses (if DOE determines that proposed amendments are necessary); and other relevant issues. In addition, DOE encourages written comments on these subjects.

DATES: *Comments:* Written comments and information will be accepted on or before,

[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

Meeting: DOE will hold a webinar on Friday, July, 22, 2022, from 1 to 4 p.m. See section IV, “Public Participation,” for webinar registration information, participant instructions and information about the capabilities available to webinar participants.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at <https://www.regulations.gov>, under docket number EERE–2017–BT–STD–0009. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE–2017–BT–STD–0009, by any of the following methods:

- (1) *Email:* WICF2017STD0009@ee.doe.gov. Include the docket number EERE–2017–BT–STD–0009 in the subject line of the message.
- (2) *Postal Mail:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc (“CD”), in which case it is not necessary to include printed copies.
- (3) *Hand Delivery/Courier:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., 6th Floor, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimiles (“faxes”) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section IV of this document.

To inform interested parties and to facilitate this rulemaking process, DOE has prepared an agenda, a preliminary TSD, and briefing materials, which are available on the DOE website at:

https://www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=56&action=viewlive.

Docket: The docket for this activity, which includes *Federal Register* notices, comments, public meeting transcripts, and other supporting documents/materials, is available for review at <https://www.regulations.gov>. All documents in the docket are listed in the <https://www.regulations.gov> index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket web page can be found at <https://www.regulations.gov/docket/EERE-2017-BT-STD-0009>. The docket web page contains instructions on how to access all documents, including public comments in the docket. See section IV of this document for information on how to submit comments through <https://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Dr. Stephanie Johnson, U.S.

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Telephone: (202) 287-1943. E-mail: ApplianceStandardsQuestions@ee.doe.gov.

Mr. Michael Kido, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-8145. E-mail: Michael.Kido@hq.doe.gov.

For further information on how to submit a comment, review other public comments and the docket, or participate in the public meeting, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail:

ApplianceStandardsQuestions@ee.doe.gov.

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I. Introduction

A. Authority

The Energy Policy and Conservation Act, as amended (“EPCA”),¹ authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. (42 U.S.C. 6291–6317) Title III, Part C² of EPCA established the Energy Conservation Program for Certain Industrial Equipment. This equipment includes walk-in coolers and walk-in freezers, the subject of this document. (42 U.S.C. 6311(1)(G))

EPCA prescribes a set of basic requirements for walk-ins. First, all walk-in doors narrower than 3 feet 9 inches and shorter than 7 feet must have automatic door closers that firmly close all walk-in doors that have been closed to within 1 inch of full closure. All walk-ins must also have strip doors, spring hinged doors, or other methods of minimizing infiltration when doors are open. Additionally, walk-ins must contain wall,

¹ All references to EPCA in this document refer to the statute as amended through the Energy Act of 2020, Pub. L. 116-260 (Dec. 27, 2020), which reflect the last statutory amendments that impact Parts A and A-1 of EPCA.

² For editorial reasons, upon codification in the U.S. Code, Part C was redesignated Part A-1.

ceiling, and door insulation of at least R-25 for coolers and R-32 for freezers, excluding glazed portions of doors and structural members, and floor insulation of at least R-28 for freezers. Walk-in evaporator fan motors of under 1 horsepower (“hp”) and less than 460 volts must be electronically commutated motors (brushless direct current motors) or three-phase motors, and walk-in condenser fan motors of under 1 horsepower must use permanent split capacitor motors, electronically commutated motors, or three-phase motors. Interior light sources must have an efficacy of 40 lumens per watt or more, including any ballast losses; less-efficacious lights may only be used in conjunction with a timer or device that turns off the lights within 15 minutes of when the walk-in is unoccupied. (*See* 42 U.S.C. 6313(f)(1))

Additionally, EPCA requires that walk-in freezers with transparent reach-in doors and windows must have triple-pane glass with either heat-reflective treated glass or gas fill. Transparent walk-in cooler doors and windows must have either double-pane glass with heat-reflective treated glass and gas fill or triple-pane glass with heat-reflective treated glass or gas fill. (42 U.S.C. 6313(f)(3)(A)-(B)) EPCA also prescribes specific anti-sweat heater-related requirements: Walk-ins without anti-sweat heater controls must have a heater power draw of no more than 7.1 or 3.0 watts per square foot of door opening for freezers and coolers, respectively. If walk-ins have a heater power draw of more than 7.1 or 3.0 watts per square foot of door opening for freezers and coolers, respectively, then the walk-in must have anti-sweat heater controls that reduce the energy use of the heater in a quantity corresponding to the relative humidity of the air outside the door or to the condensation on the inner glass pane. *See* 42 U.S.C. 6313(f)(3)(C)-(D).

Additionally, EPCA prescribed two cycles of WICF-specific rulemakings; the first to establish performance-based standards that achieve the maximum improvement in energy that the Secretary determines is technologically feasible and economically justified, and the second to determine whether to amend those standards. (42 U.S.C.

6313(f)(4) and (5)) DOE has satisfied the first of these requirements. *See* 79 FR 32050 (June 3, 2014) (establishing WICF performance standards) and 82 FR 31808 (July 10, 2017) (addressing prior rulemaking errors by amending certain refrigeration system class standards). This document addresses the second cycle of rulemaking.

EPCA further provides that, not later than 6 years after the issuance of any final rule establishing or amending a standard, DOE must publish either a notification of determination that standards for the equipment do not need to be amended, or a notice of proposed rulemaking (“NOPR”) including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6316(a); 42 U.S.C. 6295(m)(1)) Not later than three years after issuance of a final determination not to amend standards, DOE must publish either a notice of determination that standards for the equipment do not need to be amended, or a NOPR including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6316(a); 42 U.S.C. 6295(m)(3)(B))

Under EPCA, any new or amended energy conservation standard must be designed to achieve the maximum improvement in energy efficiency that DOE determines is technologically feasible and economically justified. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(A)) Furthermore, the new or amended standard must result in a significant conservation of energy. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(3)(B))

DOE is publishing this Preliminary Analysis to collect data and information to inform its decision consistent with its obligations under EPCA.

B. Rulemaking Process

DOE must follow specific statutory criteria for prescribing new or amended standards for covered equipment, including walk-ins. As noted, EPCA requires that any new or amended energy conservation standard prescribed by the Secretary of Energy (“Secretary”) be designed to achieve the maximum improvement in energy efficiency (or

water efficiency for certain products specified by EPCA) that is technologically feasible and economically justified. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(A)) Furthermore, DOE may not adopt any standard that would not result in the significant conservation of energy. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(3))

The significance of energy savings offered by a new or amended energy conservation standard cannot be determined without knowledge of the specific circumstances surrounding a given rulemaking.³ For example, the United States has now rejoined the Paris Agreement on February 19, 2021. As part of that agreement, the United States has committed to reducing greenhouse gas (“GHG”) emissions in order to limit the rise in mean global temperature.⁴ As such, energy savings that reduce GHG emission have taken on greater importance. Additionally, some covered products and equipment have most of their energy consumption occur during periods of peak energy demand. The impacts of these products on the energy infrastructure can be more pronounced than products with relatively constant demand. In evaluating the significance of energy savings, DOE considers differences in primary energy and FFC effects for different covered products and equipment when determining whether energy savings are significant. Primary energy and FFC effects include the energy consumed in electricity production (depending on load shape), in distribution and transmission, and in extracting, processing, and transporting primary fuels (i.e., coal, natural gas, petroleum fuels), and thus present a more complete picture of the impacts of energy conservation standards. Accordingly, DOE evaluates the significance of energy savings on a case-by-case basis.

³Procedures, Interpretations, and Policies for Consideration in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment, 86 FR 70892, 70901 (Dec. 13, 2021).

⁴ See Executive Order 14008, 86 FR 7619 (Feb. 1, 2021) (“Tackling the Climate Crisis at Home and Abroad”).

DOE has initially determined the energy savings for the candidate standard levels evaluated in this preliminary analysis rulemaking are “significant” within the meaning of 42 U.S.C. 6295(o)(3)(B).

To determine whether a standard is economically justified, EPCA requires that DOE determine whether the benefits of the standard exceed its burdens by considering, to the greatest extent practicable, the following seven factors:

- (1) The economic impact of the standard on the manufacturers and consumers of the products subject to the standard;
- (2) The savings in operating costs throughout the estimated average life of the covered products in the type (or class) compared to any increase in the price, initial charges, or maintenance expenses for the covered products that are likely to result from the standard;
- (3) The total projected amount of energy (or as applicable, water) savings likely to result directly from the standard;
- (4) Any lessening of the utility or the performance of the products likely to result from the standard;
- (5) The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the standard;
- (6) The need for national energy and water conservation; and
- (7) Other factors the Secretary of Energy (Secretary) considers relevant.

(42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(B)(i)(I)–(VII))

DOE fulfills these and other applicable requirements by conducting a series of analyses throughout the rulemaking process. Table I.1 shows the individual analyses that are performed to satisfy each of the requirements within EPCA.

Table I.1 EPCA Requirements and Corresponding DOE Analysis

| EPCA Requirement | Corresponding DOE Analysis |
|---|---|
| Significant Energy Savings | <ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis • Energy Use Analysis |
| Technological Feasibility | <ul style="list-style-type: none"> • Market and Technology Assessment • Screening Analysis • Engineering Analysis |
| Economic Justification: | |
| 1. Economic impact on manufacturers and consumers | <ul style="list-style-type: none"> • Manufacturer Impact Analysis • Life-Cycle Cost and Payback Period Analysis • Life-Cycle Cost Subgroup Analysis • Shipments Analysis |
| 2. Lifetime operating cost savings compared to increased cost for the product | <ul style="list-style-type: none"> • Markups for Equipment Price Analysis • Energy Use Analysis • Life-Cycle Cost and Payback Period Analysis |
| 3. Total projected energy savings | <ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis |
| 4. Impact on utility or performance | <ul style="list-style-type: none"> • Screening Analysis • Engineering Analysis |
| 5. Impact of any lessening of competition | <ul style="list-style-type: none"> • Manufacturer Impact Analysis |
| 6. Need for national energy and water conservation | <ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis |
| 7. Other factors the Secretary considers relevant | <ul style="list-style-type: none"> • Employment Impact Analysis • Utility Impact Analysis • Emissions Analysis • Monetization of Emission Reductions Benefits⁵ |

⁵ On March 16, 2022, the Fifth Circuit Court of Appeals (No. 22-30087) granted the Federal government’s emergency motion for stay pending appeal of the February 11, 2022, preliminary injunction issued in *Louisiana v. Biden*, No. 21-cv-1074-JDC-KK (W.D. La.). As a result of the Fifth Circuit’s order, the preliminary injunction is no longer in effect, pending resolution of the Federal government’s appeal of that injunction or a further court order. Among other things, the preliminary injunction enjoined the defendants in that case from “adopting, employing, treating as binding, or relying upon” the interim estimates of the social cost of greenhouse gases—which were issued by the Interagency Working Group on the Social Cost of Greenhouse Gases on February 26, 2021—to monetize the benefits of reducing greenhouse gas emissions. In the absence of further intervening court orders, DOE will revert to its approach prior to the injunction and present monetized benefits where appropriate and permissible under law.

Further, EPCA establishes a rebuttable presumption that a standard is economically justified if the Secretary finds that the additional cost to the consumer of purchasing equipment complying with an energy conservation standard level will be less than three times the value of the energy savings during the first year that the consumer will receive as a result of the standard, as calculated under the applicable test procedure. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(B)(iii))

EPCA also contains what is known as an “anti-backsliding” provision, which prevents the Secretary from prescribing any amended standard that either increases the maximum allowable energy use or decreases the minimum required energy efficiency of a covered equipment. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(1)) Also, the Secretary may not prescribe an amended or new standard if interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in the United States in any covered equipment type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(4))

Additionally, EPCA specifies requirements when promulgating an energy conservation standard for covered equipment that has two or more subcategories. DOE must specify a different standard level for a type or class of equipment that has the same function or intended use, if DOE determines that products within such group: (A) consume a different kind of energy from that consumed by other covered equipment within such type (or class); or (B) have a capacity or other performance-related feature which other equipment within such type (or class) do not have and such feature justifies a higher or lower standard. (42 U.S.C. 6316(a); 42 U.S.C. 6295(q)(1)) In determining

whether a performance-related feature justifies a different standard for a group of products, DOE must consider such factors as the utility to the consumer of the feature and other factors DOE deems appropriate. *Id.* Any rule prescribing such a standard must include an explanation of the basis on which such higher or lower level was established. (42 U.S.C. 6316(a); 42 U.S.C. 6295(q)(2))

Before proposing a standard, DOE typically seeks public input on the analytical framework, models, and tools that DOE intends to use to evaluate standards for the equipment at issue and the results of preliminary analyses DOE performed for the product.

DOE is examining whether to amend the current standards pursuant to its obligations under EPCA. This notification announces the availability of the preliminary TSD, which details the preliminary analyses and summarizes the preliminary results of DOE's analyses. In addition, DOE is announcing a public meeting to solicit feedback from interested parties on its analytical framework, models, and preliminary results.

C. Deviation from Appendix A

In accordance with section 3(a) of 10 CFR part 430, subpart C, appendix A ("appendix A"), applicable to walk-ins under 10 CFR 431.4, DOE notes that it is deviating from the provision in appendix A regarding the pre-NOPR stages for an energy conservation standards rulemaking. Section 6(a)(2) of appendix A states that if the Department determines it is appropriate to proceed with a rulemaking (after initiating the rulemaking process through an early assessment), the preliminary stages of a rulemaking to issue or amend an energy conservation standard that DOE will undertake will be a framework document and preliminary analysis, or an advance notice of proposed rulemaking ("ANOPR"). DOE is opting to deviate from this provision by publishing a preliminary analysis without a framework document. A framework document is intended to introduce and summarize the various analyses DOE conducts during the rulemaking

process and requests initial feedback from interested parties. As discussed further in the following section, prior to this notification of the preliminary analysis, DOE issued an early assessment request for information on July 16, 2021 (“July 2021 RFI”) in which DOE identified and sought data, information, and comment to evaluate whether the existing energy conservation standards for walk-ins should be amended. 86 FR 37687, 37689. DOE provided a 30-day comment period for the RFI. DOE intends to rely on substantively the same analytical methods as those used in the most recent rulemakings for walk-ins, making publication of a framework document largely redundant with the July 2021 RFI. As such, DOE is not publishing a framework document.

DOE notes that it is also deviating from the provision in appendix A regarding the length of comment periods for the pre-NOPR stages for an energy conservation standards rulemaking. Section 6(d)(2) of appendix A specifies that the length of the public comment period for pre-NOPR rulemaking documents will not be less than 75 calendar days. For the preliminary analysis, DOE has opted instead to provide a 60-day comment period. As stated, DOE requested comment in the July 2021 RFI on the analysis conducted in support of the last energy conservation standard rulemaking for WICFs. Given that the analysis will largely remain the same, and in light of the 30-day comment period DOE has already provided with its July 2021 RFI, DOE has determined that a 60-day comment period is sufficient to enable interested parties to review the tentative methodologies and accompanying analysis to develop meaningful comments in response to the preliminary TSD.

II. Background

A. Current Standards

In a final rule published on June 3, 2014 (“June 2014 Final Rule”), DOE adopted the current energy conservation standards for walk-in doors, panels, and medium-temperature dedicated condensing systems manufactured on and after June 5, 2017. 79

FR 32050. In the June 2014 Final Rule, DOE also adopted standards for other classes of refrigeration systems; however, after publication of the June 2014 Final Rule, the Air-Conditioning, Heating and Refrigeration Institute (“AHRI”) and Lennox International, Inc. (“Lennox”), a manufacturer of walk-in refrigeration systems, filed petitions for review of DOE’s final rule and DOE’s subsequent denial of a petition for reconsideration of the rule (79 FR 59090 (October 1, 2014)) with the United States Court of Appeals for the Fifth Circuit. *Lennox Int’l v. Dep’t of Energy*, Case No. 14–60535 (5th Cir.). As a result of this litigation, a settlement agreement was reached to address, and a controlling order from the Fifth Circuit vacated, standards for six of the refrigeration system equipment classes—the two energy conservation standards applicable to multiplex condensing refrigeration systems (subsequently re-named as “unit coolers”) operating at medium and low temperatures and the four energy conservation standards applicable to dedicated condensing refrigeration systems operating at low temperatures.⁶ After the Fifth Circuit issued its order, DOE established a Working Group to negotiate energy conservation standards to replace the six vacated standards. 80 FR 46521 (August 5, 2015). The Working Group assembled its recommendations into a Term Sheet (See Docket EERE–2015–BT–STD–0016–0056) that was presented to, and approved by, the Appliance Standards and Rulemaking Federal Advisory Committee (“ASRAC”) on December 18, 2015. (EERE–2015–BT–STD–0016–0055 at p. 11)

In a final rule published on July 10, 2017 (“July 2017 Final Rule”), DOE published a final rule adopting current energy conservation standards for the six classes of walk-in refrigeration systems for which the prior standards were vacated – specifically, unit coolers and low-temperature dedicated condensing systems manufactured on and

⁶ The thirteen other standards established in the June 2014 Final Rule (*i.e.*, the four standards applicable to dedicated condensing refrigeration systems operating at medium-temperatures; the three standards applicable to panels; and the six standards applicable to doors) were not vacated.

after July 10, 2020. 82 FR 31808. These standards are set forth in DOE’s regulations at 10 CFR 431.306 and are repeated in Tables II.1 through II.3.

Table II.1 Federal Energy Conservation Standards for Walk-in Coolers and Walk-in Freezer Doors

| Equipment class | Equations for maximum daily energy use (kWh/day) |
|--|---|
| Display door, medium temperature | $0.04 \times A_{dd} + 0.41$ |
| Display door, low temperature | $0.15 \times A_{dd} + 0.29$ |
| Passage door, medium temperature | $0.05 \times A_{nd} + 1.7$ |
| Passage door, low temperature | $0.14 \times A_{nd} + 4.8$ |
| Freight door, medium temperature | $0.04 \times A_{nd} + 1.9$ |
| Freight door, low temperature | $0.12 \times A_{nd} + 5.6$ |
| A_{dd} or A_{nd} = surface area of the display door or non-display door, respectively, expressed in ft ² , as determined in appendix A to subpart R of 10 CFR part 431. | |

Table II.2 Federal Energy Conservation Standards for Walk-in Coolers and Walk-in Freezer Panels

| Equipment class | Minimum R-value (h-ft²-°F/Btu) |
|--|--|
| Wall or ceiling panels, medium temperature | 25 |
| Wall or ceiling panels, low temperature | 32 |
| Floor panels, low temperature | 28 |

Table II.3 Federal Energy Conservation Standards for Walk-in Coolers and Walk-in Freezer Refrigeration Systems

| Equipment class | Minimum AWEF (Btu/W-h) |
|---|--|
| Dedicated condensing system, medium temperature, indoor | 5.61 |
| Dedicated condensing system, medium temperature, outdoor | 7.60 |
| Dedicated condensing system, low temperature, indoor with a net capacity (q_{net}) of < 6,500 Btu/h | $9.091 \times 10^{-5} \times q_{net} + 1.81$ |

| | |
|--|---|
| Dedicated condensing system, low temperature, indoor with a net capacity (q_{net}) of $\geq 6,500$ Btu/h | 2.40 |
| Dedicated condensing system, low temperature, outdoor with a net capacity (q_{net}) of $< 6,500$ Btu/h | $6.522 \times 10^{-5} \times q_{\text{net}} + 2.73$ |
| Dedicated condensing system, low temperature, outdoor with a net capacity (q_{net}) of $\geq 6,500$ Btu/h | 3.15 |
| Unit cooler, medium temperature | 9.00 |
| Unit cooler, low temperature, indoor with a net capacity (q_{net}) of $< 15,500$ Btu/h | $1.575 \times 10^{-5} \times q_{\text{net}} + 3.91$ |
| Unit cooler, low temperature, indoor with a net capacity (q_{net}) of $\geq 15,500$ Btu/h | 4.15 |

B. Current Process

As noted earlier, DOE published an RFI to initiate an early assessment review to determine whether any new or amended standards would satisfy the relevant requirements of EPCA for a new or amended energy conservation standard for walk-ins and to solicit relevant information from the public. 86 FR 37687. Through the RFI, DOE sought data and information to, among other things, help the agency determine whether DOE should propose a “no new standard” determination because a more stringent standard: (1) would not result in a significant savings of energy; (2) is not technologically feasible; (3) is not economically justified; or (4) any combination of foregoing. *Id.*

Comments received to date as part of the current process have helped DOE identify and resolve issues related to the preliminary analyses. Chapter 2 of the preliminary TSD summarizes and addresses the comments received.

III. Summary of the Analyses Performed by DOE

A. Market and Technology Assessment

DOE develops information in the market and technology assessment that provides an overall picture of the market for the products concerned, including general characteristics of the products, the industry structure, manufacturers, market

characteristics, and technologies used in the products. This activity includes both quantitative and qualitative assessments, based primarily on publicly available information. The subjects addressed in the market and technology assessment include: (1) a determination of the scope of the rulemaking and product classes, (2) manufacturers and industry structure, (3) existing efficiency programs, (4) shipments information, (5) market and industry trends, and (6) technologies or design options that could improve the energy efficiency of the product.

See chapter 3 of the preliminary TSD for further discussion of the market and technology assessment.

B. Screening Analysis

DOE uses the following five screening criteria to determine which technology options are suitable for further consideration in an energy conservation standards rulemaking:

(1) *Technological feasibility.* Technologies that are not incorporated in commercial products or in working prototypes will not be considered further.

(2) *Practicability to manufacture, install, and service.* If it is determined that mass production and reliable installation and servicing of a technology in commercial products could not be achieved on the scale necessary to serve the relevant market at the time of the projected compliance date of the standard, then that technology will not be considered further.

(3) *Impacts on product utility or product availability.* If it is determined that a technology would have a significant adverse impact on the utility of the product for significant subgroups of consumers or would result in the unavailability of any covered product type with performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as products generally available in the United States at the time, it will not be considered further.

(4) *Adverse impacts on health or safety.* If it is determined that a technology would have significant adverse impacts on health or safety, it will not be considered further.

(5) *Unique-pathway proprietary technologies.* If a design option utilizes proprietary technology that represents a unique pathway to achieving a given efficiency level, that technology will not be considered further due to the potential for monopolistic concerns.

10 CFR part 430, subpart C, appendix A, sections 6(b)(3) and 7(b).

If DOE determines that a technology, or a combination of technologies, fails to meet one or more of the listed five criteria, it will be excluded from further consideration in the engineering analysis.

See chapter 4 of the preliminary TSD for further discussion of the screening analysis.

C. Engineering Analysis

The purpose of the engineering analysis is to establish the relationship between the efficiency and cost of walk-ins. There are two elements to consider in the engineering analysis; the selection of efficiency levels to analyze (*i.e.*, the “efficiency analysis”) and the determination of equipment cost at each efficiency level (*i.e.*, the “cost analysis”). In determining the performance of higher-efficiency equipment, DOE considers technologies and design option combinations not eliminated by the screening analysis. For each equipment class, DOE estimates the manufacturer production cost (“MPC”) for the baseline as well as higher efficiency levels. The output of the engineering analysis is a set of cost-efficiency “curves” that are used in downstream analyses (*i.e.*, the LCC and PBP analyses and the NIA).

DOE converts the MPC to the manufacturer selling price (“MSP”) by applying a manufacturer markup. The MSP is the price the manufacturer charges its first customer,

when selling into the equipment distribution channels. The manufacturer markup accounts for manufacturer non-production costs and profit margin. DOE developed the manufacturer markup by examining publicly available financial information for manufacturers of the covered product.

See Chapter 5 of the preliminary TSD for additional detail on the engineering analysis.

D. Markups Analysis

The markups analysis develops appropriate markups (*e.g.*, retailer markups, distributor markups, contractor markups) in the distribution chain and sales taxes to convert MSP estimates derived in the engineering analysis to consumer prices, which are then used in the LCC and PBP analysis. At each step in the distribution channel, companies mark up the price of the equipment to cover business costs and profit margin.

DOE developed baseline and incremental markups for each agent in the distribution chain. Baseline markups are applied to the price of products with baseline efficiency, while incremental markups are applied to the difference in price between baseline and higher-efficiency models (the incremental cost increase). The incremental markup is typically less than the baseline markup and is designed to maintain similar per-unit operating profit before and after new or amended standards.⁷

Chapter 6 of the preliminary TSD provides details on DOE's development of markups for walk-ins.

E. Energy Use Analysis

The purpose of the energy use analysis is to determine the annual energy consumption of walk-ins at different efficiencies in representative U.S. commercial

⁷ Because the projected price of standards-compliant products is typically higher than the price of baseline products, using the same markup for the incremental cost and the baseline cost would result in higher per-unit operating profit. While such an outcome is possible, DOE maintains that in markets that are reasonably competitive it is unlikely that standards would lead to a sustainable increase in profitability in the long run.

buildings and to assess the energy savings potential of increased walk-in efficiency. The energy use analysis estimates the range of energy use of walk-ins in the field (*i.e.*, as they are actually used by consumers). The energy use analysis provides the basis for other analyses DOE performed, particularly assessments of the energy savings and the savings in consumer operating costs that could result from adoption of amended or new standards.

Chapter 7 of the preliminary TSD addresses the energy use analysis.

F. Life-Cycle Cost and Payback Period Analyses

The effect of new or amended energy conservation standards on individual consumers usually involves a reduction in operating cost and an increase in purchase cost. DOE used the following two metrics to measure consumer impacts:

- The LCC is the total consumer expense of an appliance or equipment over the life of that product, consisting of total installed cost (MSP, distribution chain markups, sales tax, and installation costs) plus operating costs (expenses for energy use, maintenance, and repair). To compute the operating costs, DOE discounts future operating costs to the time of purchase and sums them over the lifetime of the product.
- The PBP is the estimated amount of time (in years) it takes consumers to recover the increased purchase cost (including installation) of a more-efficient equipment through lower operating costs. DOE calculates the PBP by dividing the change in purchase cost at higher efficiency levels by the change in annual operating cost for the year that amended or new standards are assumed to take effect.

Chapter 8 of the preliminary TSD addresses the LCC and PBP analyses.

G. National Impact Analysis

The NIA estimates the national energy savings (“NES”) and the net present value (“NPV”) of total consumer costs and savings expected to result from amended standards

at specific efficiency levels (referred to as candidate standard levels).⁸ DOE calculates the NES and NPV for the potential standard levels considered based on projections of annual equipment shipments, along with the annual energy consumption and total installed cost data from the energy use and LCC analyses. For the present analysis, DOE projected the energy savings, operating cost savings, equipment costs, and NPV of consumer benefits over the lifetime of walk-ins sold from 2027 through 2056.

DOE evaluates the impacts of new or amended standards by comparing a case without such standards with standards-case projections (“no-new-standards case”). The no-new-standards case characterizes energy use and consumer costs for each equipment class in the absence of new or amended energy conservation standards. For this projection, DOE considers historical trends in efficiency and various forces that are likely to affect the mix of efficiencies over time. DOE compares the no-new-standards case with projections characterizing the market for each equipment class if DOE adopted new or amended standards at specific energy efficiency levels for that class. For each efficiency level, DOE considers how a given standard would likely affect the market shares of equipment with efficiencies greater than the standard.

DOE uses a spreadsheet model to calculate the energy savings and the national consumer costs and savings from each efficiency level. Interested parties can review DOE’s analyses by changing various input quantities within the spreadsheet. The NIA spreadsheet model uses typical values (as opposed to probability distributions) as inputs. Critical inputs to this analysis include shipments projections, estimated equipment lifetimes, equipment installed costs and operating costs, equipment annual energy consumption, the base case efficiency projection, and discount rates.

⁸ The NIA accounts for impacts in the 50 states and U.S. territories.

DOE estimates a combined total of 3.647 quads of FFC energy savings at the max-tech efficiency levels for walk-in doors, panels, and refrigeration systems may result if amended standards are implemented.

Chapter 10 of the preliminary TSD addresses the NIA.

IV. Public Participation

DOE invites public engagement in this process through participation in the webinar and submission of written comments and data. After the webinar and the closing of the comment period, DOE will consider all timely-submitted comments and additional information obtained from interested parties, as well as information obtained through further analyses. Following such consideration, the Department will publish either a determination that the standards for walk-ins need not be amended or a NOPR proposing to amend those standards. The NOPR, should one be issued, would include proposed energy conservation standards for the products covered by this rulemaking, and members of the public would be given an opportunity to submit written and oral comments on the proposed standards.

A. Participation in the Webinar

The time and date for the webinar meeting are listed in the **DATES** section at the beginning of this document. Webinar registration information, participant instructions, and information about the capabilities available to webinar participants will be published on DOE's website: <https://www.energy.gov/eere/buildings/public-meetings-and-comment-deadlines>. Participants are responsible for ensuring their systems are compatible with the webinar software.

B. Procedure for Submitting Prepared General Statements for Distribution

Any person who has an interest in the topics addressed in this document, or who is representative of a group or class of persons that has an interest in these issues, may request an opportunity to make an oral presentation at the webinar. Such persons may

submit such request to *ApplianceStandardsQuestions@ee.doe.gov*. Persons who wish to speak should include with their request a computer file in WordPerfect, Microsoft Word, PDF, or text (ASCII) file format that briefly describes the nature of their interest in this rulemaking and the topics they wish to discuss. Such persons should also provide a daytime telephone number where they can be reached.

C. Conduct of the Webinar

DOE will designate a DOE official to preside at the webinar/public meeting and may also use a professional facilitator to aid discussion. The meeting will not be a judicial or evidentiary-type public hearing, but DOE will conduct it in accordance with section 336 of EPCA (42 U.S.C. 6306). A court reporter will be present to record the proceedings and prepare a transcript. DOE reserves the right to schedule the order of presentations and to establish the procedures governing the conduct of the webinar. There shall not be discussion of proprietary information, costs or prices, market share, or other commercial matters regulated by U.S. anti-trust laws. After the webinar and until the end of the comment period, interested parties may submit further comments on the proceedings and any aspect of the rulemaking.

The webinar will be conducted in an informal, conference style. DOE will present a general overview of the topics addressed in this document, allow time for prepared general statements by participants, and encourage all interested parties to share their views on issues affecting this document. Each participant will be allowed to make a general statement (within time limits determined by DOE), before the discussion of specific topics. DOE will permit, as time allows, other participants to comment briefly on any general statements. At the end of all prepared statements on a topic, DOE will permit participants to clarify their statements briefly. Participants should be prepared to answer questions by DOE and by other participants concerning these issues. DOE representatives may also ask questions of participants concerning other matters relevant

to this rulemaking. The official conducting the webinar/public meeting will accept additional comments or questions from those attending, as time permits. The presiding official will announce any further procedural rules or modification of the above procedures that may be needed for the proper conduct of the webinar.

A transcript of the webinar will be included in the docket, which can be viewed as described in the *Docket* section at the beginning of this document. In addition, any person may buy a copy of the transcript from the transcribing reporter.

D. Submission of Comments

DOE will accept comments, data, and information regarding this proposed rule before or after the public meeting, but no later than the date provided in the **DATES** section at the beginning of this document. Interested parties may submit comments, data, and other information using any of the methods described in the **ADDRESSES** section at the beginning of this document.

Submitting comments via <https://www.regulations.gov>.

The <https://www.regulations.gov> webpage will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment itself or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Otherwise, persons viewing comments will see

only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to <https://www.regulations.gov> information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (“CBI”)). Comments submitted through <https://www.regulations.gov> cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through <https://www.regulations.gov> before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that <https://www.regulations.gov> provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery/courier, or postal mail. Comments and documents submitted via email, hand delivery/courier, or postal mail also will be posted to <https://www.regulations.gov>. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information in a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via postal mail or hand delivery/courier, please provide all items on a CD, if feasible, in which case it is not necessary to submit printed copies. No telefacsimiles (“faxes”) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, that are written in English, and that are free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

V. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this notification of the availability of the preliminary technical support document and request for comment.

Signing Authority

This document of the Department of Energy was signed on June 24, 2022, by Kelly J. Speakes-Backman, Principal Deputy Assistant Secretary for Energy Efficiency and

Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on June 24, 2022.

Treena V. Garrett,
Federal Register Liaison Officer,
U.S. Department of Energy.

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